

IA7 Rec'd PCT/PTO 17 JAN 2006

PTO/SB/21 (09-04)

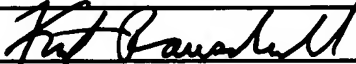
Approved for use through 07/31/2006. OMB 0651-0031

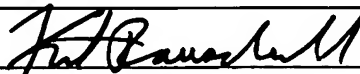
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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TRANSMITTAL FORM <small>(to be used for all correspondence after initial filing)</small> <small>(not including cited References)</small> <small>Total Number of Pages in This Submission</small>	7	Application Number	10/553,893
		Filing Date	10/21/2005
		First Named Inventor	Chistyakov
		Art Unit	Not Yet Assigned
		Examiner Name	Not Yet Assigned
		Attorney Docket Number	ZON-005USN

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD <div style="border: 1px solid black; padding: 2px;">Remarks</div>	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): PTO Form 1449 (4 pgs.); Copies of References B1-B2 and C1-C14; and Return Receipt Postcard.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm Name	Rauschenbach Patent Law Group, LLC		
Signature			
Printed name	Kurt Rauschenbach		
Date	January 13, 2006	Reg. No.	40,137

CERTIFICATE OF TRANSMISSION/MAILING			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:			
Signature			
Typed or printed name	Kurt Rauschenbach	Date	January 13, 2006

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S): Chistyakov
SERIAL NO.: 10/553,893 GROUP NO.: Not Yet Assigned
FILING DATE: October 21, 2005 EXAMINER: Not Yet Assigned
TITLE: High Density Plasma Source

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. BOX 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. §1.97, Applicants hereby make of record the references listed on the accompanying Form PTO-1449 for consideration by the Examiner in connection with the examination of the above-identified patent application. Copies of References B1-B2 and C1-C14 are enclosed.

REMARKS

In accordance with the provisions of 37 C.F.R. §1.97, this statement is being filed (CHECK ONE):

- ☒ (1) within three months of the Filing Date of a national application other than a continued prosecution application under § 1.53(d); or within three months of the date of entry of the national stage as set forth in § 1.491 in an international application; or before the mailing of a first Office Action on the merits; or before the mailing of a first Office Action after the filing of a request for continued examination under § 1.114; or
- ☐ (2) after the period defined in (1) but before the mailing date of a Final Action or Notice of Allowance, and
- ☐ the Statement required under § 1.97(e) below , OR
- ☐ the fee set forth in § 1.17(p), namely \$180.00, is included herein, or
- ☐ (3) after the mailing date of a Final Action or Notice of Allowance but before the payment of the Issue Fee, AND
- ☐ the Statement required under § 1.97(e) below; and

☐ the fee set forth in § 1.17(p), namely \$180.00 is included herein.

It is respectfully requested that each of the references shown on the attached Form PTO-1449 be made of record in this application.

STATEMENT

As required under §1.97(e), Applicants, through the undersigned, hereby state either that [check the appropriate space]:

- ☐ 1. That each item of information contained in the Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing date of the Information Disclosure Statement; or
- ☐ 2. That no item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to any individual designated in §1.56(c) more than three months prior to the filing of the Information Disclosure Statement.

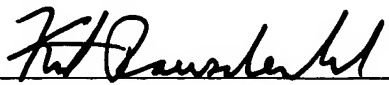
FEE AUTHORIZATION

Applicants believe that there is no fee associated with this submission, however should it be determined that a fee is due, the Commissioner is hereby authorized to charge the missing fee to our Deposit Account No. 501211.

Date: January 13, 2006
Reg. No. 40,137

Tel. No.: (781) 271-1503
Fax No.: (781) 271-1527
Doc-1954v1

Respectfully submitted,


Kurt Rauschenbach
Atty/Agent for Applicant(s)
Rauschenbach Patent Law Group, LLC
Post Office Box 387
Bedford, MA 01730

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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)			Complete if Known		
			Application Number	10/553,893	
			Filing Date	10/21/2005	
			First Named Inventor	Chistyakov	
			Art Unit	Not Yet Assigned	
			Examiner Name	Not Yet Assigned	
			Attorney Docket Number	ZON-005USN	
Sheet	1	of	4		

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	A1	US- 3,666,982	05-30-1972	Wiegand, Jr.	
	A2	US- 4,953,174	08-28-1990	Eldridge, et al.	
	A3	US- 5,015,493	05-14-1991	Gruen	
	A4	US- 5,247,531	09-21-1993	Muller-Horsche	
	A5	US- 5,795,452	08-18-1998	Kinoshita, et al.	
	A6	US- 5,821,548	10-13-1998	Hinchliffe	
	A7	US- 5,846,883	12-08-1998	Moslehi	
	A8	US- 6,093,293	07-25-2000	Haag, et al.	
	A9	US- 6,124,675	09-26-2000	Bertrand, et al.	
	A10	US- 6,284,106 B1	09-04-2001	Haag, et al.	
	A11	US- 6,296,742 B1	10-02-2001	Kouznetsov	
	A12	US- 6,395,641 B2	05-28-2002	Savas	
	A13	US- 6,413,382 B1	07-02-2002	Wang, et al.	
	A14	US- 6,454,920 B1	09-24-2002	Haag, et al.	
	A15	US- 6,488,822 B1	12-03-2002	Moslehi	
	A16	US- 2001/0047760 A1	12-06-2002	Moslehi	
	A17	US- 6,853,142 B2	02-08-2005	Chistyakov	
	A18	US- 6,896,773 B2	05-24-2005	Chistyakov	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
	B1	WO 98/40532	09-17-1998	Chemfilt R & D...		
	B2	WO 01/98553 A1	12-27-2001	Chemfilt R & D...		

Examiner Signature		Date Considered	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional). 2 See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 6 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 2 of 4**Complete if Known**

Application Number	10/553,893
Filing Date	10/21/2005
First Named Inventor	Chistyakov
Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	ZON-005USN

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	A19	US- 6,896,775 B2	05-24-2005	Chistyakov	
	A20	US- 6,805,779 B2	10-19-2004	Chistyakov	
	A21	US- 2004/0060813 A1	04-01-2004	Chistyakov	
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				

Examiner
SignatureDate
Considered

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet

3

of

4

Complete If Known

Application Number	10/553,893
Filing Date	10/21/2005
First Named Inventor	Chistyakov
Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	ZON-005USN

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	C1	BOOTH, ET AL., The Transition From Symmetric To Asymetric Discharges In Pulsed 13.56 MHz Capacitively Coupled Plasmas, J. Appl. Phys., 15 July 1997, Pgs. 552-560, Vol. 82, No. 2, American Institute of Physics.	
	C2	BUNSHAH, ET AL., Deposition Technologies For Films And Coatings, Pgs. 178-183, Noyes Publications, Park Ridge, New Jersey.	
	C3	DAUGHERTY, ET AL., Attachment-Dominated Electron-Beam-Ionized Discharges, Applied Physics Letters, 15 May 1976, Pgs. 581-583, Vol. 28, No. 10, American Institute of Physics.	
	C4	GOTO, ET AL., Dual Excitation Reactive Ion Etcher For Low Energy Plasma Processing, J. Vac. Sci. Technol. A., Sep/Oct 1992, Pgs. 3048-3054, Vol. 10, No. 5, American Vacuum Society.	
	C5	KOUZNETSOV, ET AL., A Novel Pulsed Magnetron Sputter Technique Utilizing Very High Target Power Densities, Surface and Coatings Technology, 1999, Pgs. 290-293, Vol. 122, Elsevier Science S.A.	
	C6	LINDQUIST, ET AL., High Selectivity Plasma Etching Of Silicone Dioxide With A Dual Frequency 27/2 MHz Capacitive RF Discharge.	
	C7	MACAK, Reactive Sputter Deposition Process Of Al ₂ O ₃ And Characterization Of A Novel High Plasma Density Pulsed Magnetron Discharge, Linkoping Studies In Science And Technology, Pgs. 1-2.	
	C8	MACAK, ET AL., Ionized Sputter Deposition Using An Extremely High Plasma Density Pulsed Magnetron Discharge, J. Vac. Sci. Technol. A., Jul/Aug 2000, Pgs. 1533-1537, Vol. 18, No. 4., American Vacuum Society.	
	C9	MOZGRIN, ET AL., High-Current Low-Pressure Quasi-Stationary Discharge In A Magnetic Field: Experimental Research, Plasma Physics Reports, 1995, Pgs. 400-409, Vol. 21, No. 5.	
	C10	ROSSNAGEL, ET AL., Induced Drift Currents In Circular Planar Magnetrons, J. Vac. Sci. Technol. A., Jan/FEB 1987, Pgs. 88-91, Vol. 5, No. 1, American Vacuum Society.	

Examiner
SignatureDate
Considered

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¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet

4

of

4

Complete If Known

Application Number

10/553,893

Filing Date

10/21/2005

First Named Inventor

Chistyakov

Art Unit

Not Yet Assigned

Examiner Name

Not Yet Assigned

Attorney Docket Number

ZON-005USN

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	C11	SHERIDAN, ET AL., Electron Velocity Distribution Functions In A Sputtering Magnetron Discharge For The E x B Direction, J. Vac. Sci. Technol. A., Jul/Aug 1998, Pgs. 2173-2176, Vol. 16, No. 4, American Vacuum Society.	
	C12	STEINBRUCHEL, A Simple Formula For Low-Energy Sputtering Yields, Appl. Phys. A., 1985, Pgs. 37-42, Vol. 36, Sprigner Verlag.	
	C13	Encyclopedia Of Low Temperature Plasma, Pg. 119, Vol. 3	✓
	C14	Encyclopedia Of Low Temperature Plasma, Pg. 123, Vol. 3	✓

Examiner
SignatureDate
Considered

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